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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,664	07/28/2003	Atsushi Takahashi	003913.106076	5235
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DAY PITNEY LLP 7 TIMES SQUARE NEW YORK, NY 10036-7311			EXAMINER LEWIS, RALPH A	
			ART UNIT 3732	PAPER NUMBER
			MAIL DATE 12/28/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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## Office Action Summary

Application No.

10/628,664

Applicant(s)

TAKAHASHI, ATSUSHI

Examiner

Ralph A. Lewis

Art Unit

3732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 7-11, 16-18 and 25-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11, 18 and 25-30 is/are allowed.
- 6) ☒ Claim(s) 31-37 is/are rejected.
- 7) ☒ Claim(s) 7-10, 16 and 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

### **Rejections based on 35 U.S.C. 112, first paragraph**

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 35-37 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 35 requiring an optical fiber appears to be directed to applicant's disclosed embodiment of Figures 4 and 5, however, in that embodiment there is only one CCD camera, not two as required by the present claims. In this particular embodiment there is no CCD camera in the dental instrument mirror. The image is conveyed from the dental instrument mirror through the optical fiber to the CCD camera in the hand held monitor where it is converted to a digital image and displayed on the monitor.

### **Objection to the Claims**

Claims 7-10, 16, 17 and 31-37 are objected to under 37 CFR 1.75(a) for failing to particularly point out and distinctly claim the subject matter which applicant regards as his/her invention.

In claim 9, line 14, it should be made clear that the "CCD camera" limitation is in reference to a different "CCD camera" than that already set forth in line 4. The examiner suggests conventional claim language, such as "first" and "second" to distinguish the two. In lines 17 and 18, it is unclear how the image projected on the screen relates to the displayed image of line 9. The claim needs to be clarified.

In claims 7 and 8, line 2, it is unclear which of the two CCD cameras of parent claim 9 is being referenced. Dependent claims must reasonably relate back to the claims from which they depend.

In claim 10, there is no antecedent basis for "the CCD camera at the center of the hand mirror" limitation.

In claim 17, it is unclear if "the light transmitting aperture" is in reference to the "light transmitting aperture" of line 2 of parent claim 9 or the "light transmitting aperture" of lines 15 and 16. Applicant's use of the same terminology for different claimed elements is confusing.

In claim 31, line 5, it is unclear what applicant is attempting to claim with the "similar to a virtual image" limitation? Aren't all electronic images "virtual"? In line 7, there is insufficient support in the claim for "the dentist's need to shift." The examiner encourages applicant to set forth structural differences in the apparatus claims between their invention and the prior art, rather than assertions as to how the invention is to be used. In line 8, insufficient structure is set forth to support the claimed "wire or wireless" reception.

In claim 33, the language in parenthesis is not understood. Is it applicant's intention that the terms within the parenthesis be deleted?

In claim 34, it is unclear how the "injection pipe" and "suction pipe" are related to the previously claimed structures. The examiner suggests setting forth the dental mirror with an elongated handle having a mirror reflection surface positioned at one end, and then relating the pipes to the handle and the mirror surface.

In claim 35, the claiming of an optical fiber with two different CCD cameras is not understood. In line 8, it is unclear how the "grip portion" relates to the previously claimed "mirror surface." The examiner encourages applicant to set forth some minimal structure (e.g. and elongated handle with mirror surface attached to one end) to which the "grip portion" can be related. In line 12, there is no antecedent basis for "the hand mirror monitor."

In claim 37, it is unclear how the "injection pipe" and "suction pipe" are related to the previously claimed structures. The examiner suggests setting forth the dental mirror with an elongated handle having a mirror reflection surface positioned at one end, and then relating the pipes to the handle and the mirror surface.

### **Rejections based on Prior Art**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rakocz (US 6,276,934) in view of Spoonhower et al. (US 2002/0118279).

Rakocz discloses a dental mirror 28 having an incoming light portion 24 which passes a light image (through optic 30 and 32) to a CCD camera 36 where it is converted to a digital image and conveyed via cable 23 to a monitor (column 5, line 20). Rakocz discloses a generic monitor rather than the claimed "hand held monitor." Spoonhower et al. discloses a dental camera having a monitor sized 14 "that can be easily hand positioned relative to the dentist's and/or patient's line of sight" (page 2, paragraph [0020]). It would have been obvious to one skilled in the art to have used a hand held monitor as that disclosed by Spoonhower et al in place of the generic monitor of Rakocz so that the display could be readily positioned for easy viewing by the dentist and patient as taught by Spoonhower et al.

Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rakocz (US 6,276,934) and Spoonhower et al. (US 2002/0118279) as applied above and further view of Lake (US 5,951,284).

Lake discloses a dental mirror having both air and suction hoses to permit suction removal of debris and saliva from the patient's mouth and the mirror surface (see col. 2, lines 50-54). It would have been obvious to one skilled in the art to provide the device of Rakocz with an air injection and a suction hose and vacuum source in

view of Lake in order to permit suction removal of debris and saliva from the patient's mouth and the mirror surface.

Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rakocz (US 6,276,934) in view of Elbaum et al (US 6,201,880).

Rakocz discloses a dental mirror 28 having an incoming light portion 24 which passes a light image (through optic 30 and 32) to a CCD camera 36 where it is converted to a digital image and conveyed via cable 23 to a monitor (column 5, line 20). In Rakocz the CCD camera 36 is located in the dental mirror handle rather than remotely at the monitor where the image is conveyed by optical fibers as claimed. Elbaum et al disclose a dental imaging device wherein the CCD camera 24 may be located either in the instrument handle or remotely with the monitor where optical fiber cable 23 supplies the image to the CCD camera (note column 6, lines 1-14). To have merely positioned the CCD camera remotely from the dental instrument mirror where the image is conveyed via an optical fiber would have been obvious to one of ordinary skill in the art in view of Elbaum et al teaching that the two different arrangements are equivalent and can be used alternatively of one another.

Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rakocz (US 6,276,934) and Elbaum et al (US 6,201,880) as applied above and further view of Lake (US 5,951,284).

Lake discloses a dental mirror having both air and suction hoses to permit suction removal of debris and saliva from the patient's mouth and the mirror surface (see col. 2, lines 50-54). It would have been obvious to one skilled in the art to provide the device of Rakocz with an air injection and a suction hose and vacuum source in view of Lake in order to permit suction removal of debris and saliva from the patient's mouth and the mirror surface.

#### **Prior Art**


Claims 11, 18 and 25-30 are allowed.

Claims 7-10, 16 and 17 would be allowable if rewritten to overcome the objections noted above.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

This application has been reassigned. Examiner Manahan is now a supervisory examiner. Any inquiry concerning this communication should be directed to **Ralph Lewis** at telephone number (571) 272-4712. Fax (571) 273-8300. The examiner works a compressed work schedule and is unavailable every other Friday. The examiner's supervisor, Cris Rodriguez, can be reached at (571) 272-4964.

R. Lewis  
December 21, 2007

  
Ralph A. Lewis  
Primary Examiner  
AU 3732